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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,709	06/12/2001	Wade Summers	SUM.101	3775

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 02/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/879,709

Applicant(s)

SUMMERS, WADE

Examiner

Justin R Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-17 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-17, drawn to a tire assembly incorporating a plurality of inflated balls within a hollow space defined between the tire and the rim, classified in class 152, subclass 336.1.
  - II. Claims 18-21, drawn to a ball having a specific thickness and pressure in relation to said thickness, classified in class 473, subclass 569.
2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination requires the inclusion of gas-filled balls having a thin wall while the subcombination is more generally directed to balls having a specified thickness (in relation to ball diameter) and an ability to support a given load that is at least 100 times the cube of the diameter of said ball without exceeding its tensile limit. The subcombination ("balls" in general) has separate utility such as recreational purposes.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. During a telephone conversation with Theresa Camoriano on Wednesday, January 15, 2003 a provisional election was made without traverse to prosecute the invention of a tire assembly incorporating a plurality of inflated balls, claims 1-17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-21 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Specification***

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 9 recites that each ball has a pressure which is substantially greater than the ambient pressure in order to maintain the ball in an inflated state. However, the original disclosure fails to describe such an embodiment. It is suggested that such language be incorporated in to the specification without the introduction of new matter.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5, 6, 9-14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this instance, claim 9 requires that each ball have a pressure which is substantially greater than the ambient pressure in order to maintain the ball in an inflated state. It is unclear if applicant is intending to

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define the tire pressure adjacent the balls as the "ambient pressure" or the region adjacent the balls when they are being inflated. As set forth in the previous paragraph, it is suggested that applicant included language that clearly defines the relationship between the pressure in the balls and the "ambient pressure".

Further regarding claim 9, the language "thin" wall and "substantially greater" are included in lines 10 and 12, respectively. In each instance, the limitations are vague and fail to clearly define the scope of the claimed invention. In particular, there is no quantitative relationship associated with the term "thin" and it appears that the claimed invention is directed to a variety of wall sizes depending on the specific type of tire. Also, the language "substantially greater" (also contained in claims 6 and 12) fails to suggest a quantitative difference, or even an order of difference, between the respective pressures. It is suggested that applicant clarify each of the terms noted above without the introduction of new matter.

Regarding claims 5 and 13, the claim requires a "rim lock" be included in the tire construction in order to press the embedded cords against the rim. The term "rim lock" is not recognized as defining a common tire component. It is unclear if such a component is analogous to a bead spreader or if defines some additional component. Applicant is asked to clarify the term "rim lock". For examination purposes, this term will be viewed as defining a bead spreader.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondou (JP 7-228111). As best depicted in Figures 1-4, Kondou is directed to a tire assembly comprising a tire and a corresponding safety rim (2), wherein a plurality of inflated balls (3) are included within a hollow space defined between said tire and said rim.

With respect to claim 2, the tire assembly of Kondou contains a main valve (B) that extends through said rim.

Regarding claim 7, the tire assembly of Kondou includes an inflatable tube (A) between said balls and said rim, wherein the inflatable tube includes a main valve (8) that is accessible from outside said rim.

***Claim Rejections - 35 USC § 102 / 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4, 6, 9-12, 15, and 16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Richards (US 1,332,953). As best depicted in Figure 2, Richards discloses a tire assembly comprising a tire and a corresponding safety rim (11), wherein a plurality of inflated balls

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or cells (16) are included within a hollow space defined between said tire and said rim. In this instance, Richards describes the rim as a clincher rim (Page 1, Lines 84-92) and it is the examiner's position that such a rim constitutes a "safety rim" since it has a generally U-shaped cross-section, an inner surface, and an outer surface that define left and right recesses. In any event, if it is argued that the clincher rim of Richards does not constitute a safety rim in accordance to the limitations of the claimed invention, Richards further states that the invention "is in no way restricted to the type of rim... as these may be varied, if desired". As such, one of ordinary skill in the art at the time of the invention would have readily appreciated the use of a "safety rim" with the tire of Richards as such rims represent the conventional rims that are extensively used in the manufacture of current tires (eliminates unseating of bead, as compared to previous rims).

Regarding claim 2, the tire assembly of Richards contains a main valve (15) extending through said rim.

With respect to claims 3 and 4, each of the inflated balls or cells (16) includes a check valve structure (19) that controls the inflow and outflow of gas (Page 2, Lines 9-20).

Regarding claims 6 and 12, the limitations do not further define the structure of the claimed invention, as they constitute the method by which the balls are processed. In any event, it would have been obvious to inflate adjacent balls with "substantially different" internal pressures as the cells would be expected to have somewhat different

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pressures. As set forth in the 112, 2<sup>nd</sup> Paragraph rejection above, it is unclear what limitations the term "substantially different" imparts to the claim.

Regarding claims 15 and 16, while Richards fails to expressly relate the diameter and the load, one of ordinary skill in the art at the time of the invention, depending on the specific type of tire, would have been able to appropriately select the structure of the inflatable ball in order to optimize the reinforcing capability of the ball assembly. In particular, Richards states that the geometry or shape of the inflatable ball (cell) is not critical to the functioning of the invention (Page 2, Lines 1-3). Furthermore, the properties of the inflatable ball (load capability) would be dependent on the material used to construct the ball and the amount of pressure, it being noted that Richards is generally directed to the use of rubber or the like and one, which would be recognized as including polyurethane. As such, the broad quantitative relationship of the claimed invention would have been well within the purview of one of ordinary skill in the art at the time of the invention.

12. Claims 8, 10, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richards as applied to claim 1 above. In each instance, the inflated balls are described as being made as an elastic body from rubber or the like. While neither reference provides an express teaching for the use of polyurethane, one of ordinary skill in the art at the time of the invention would have found such a material selection to have been obvious since polyurethane, along with natural and synthetic rubbers, are extremely well known and extensively used material in the tire industry to form elastic bodies or components. It is further noted that while the claim recites the



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welding of polyurethane sheets, these limitations are "method limitations" and fail to further define the structure of the claimed invention, there being no evidence of such a method resulting in a materially different article (inflatable ball).

***Allowable Subject Matter***

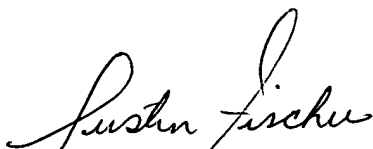
13. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Justin Fischer

  
Michael W. Ball  
Supervisory Patent Examiner  
Technology Center 1700

February 10, 2003